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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,495	01/09/2004	Jin Woong Kim	2832-0173P	6825
2292 7590 10/02/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER HECKERT, JASON MARK	
			ART UNIT 1746	PAPER NUMBER
			NOTIFICATION DATE 10/02/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/753,495	Applicant(s) KIM ET AL.	
	Examiner Jason Heckert	Art Unit 1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/18/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Due the applicant's amendments to the claims, the previous rejections are rendered moot.
2. The examiner has included the proper citation for Pick on the 892 form.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 18, 21 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 18 recites the limitation "the upper part". There is insufficient antecedent basis for this limitation in the claim.
6. Claim 21 does not make sense. It depends from claims 20, which depends from claim 19. In claim 19, the first portion extends above a second portion. However, claim 21 recites that the second portions extends in a plane above the first portion contradicting the original independent claim. Please correct this inconsistency.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-2, 6-7, 16, 17-20, 23-24, 26-35, 38-42 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Sulzmann. Nakamura et al. discloses a standard washing machine with standard components such as a housing, a tub, and a drum as seen in figure 1. Nakamura et al. also discloses a water-supply unit comprising a valve 17 and a water supply tube 16 connecting the valve to an inlet of container 6. At least part of the water supply unit, such as the valve and associated piping, is disposed in the casing. Said container has a boiler 7 and a cylindrical outlet tube 8 with an upper end disposed at an upper part of the container and a lower end disposed outside the container. This upper part of the container protrudes from the lower part and, considering steam rises, a portion of this upper part will store steam before it leaves the container. Furthermore, if steam is to travel through tube 8, then the tube must be fixed to the container at a location in correspondence with the steam storing part. Finally tube 8 is connected to a nozzle 20 that delivers steam to the laundry, which is a functional equivalent of a steam tube. This steam generation unit is located above the tub between the tub and the casing. Water introduced to this generator ultimately is injected into the tub. In regards to claims 18-20, 23, 31-35, and 38, the limitations are very broad. For example, in the box-like generator of Nakamura, the upper 50% of the volume constitutes an "upper part". The upper 25% of the volume can constitute a portion that protrudes from the upper art. The same can be said for the upper walls. Any area located in the top 50% of the area of the wall can be considered a "a second portion", and any area higher than the second portion can be considered a "first portion extending above a second portion." Hence, Nakamura's steam generating

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device read on the broadest reasonable interpretation of the applicant's claims. The use of bolts instead of the integral design of Nakamura is not considered to be patentably distinct, as bolts are a well-known fastening means. Nakamura's machine has a vertical drum, not a horizontal drum. This orientation of the tub and drum is a well-known alternative in the art. Sulzmann shows a horizontal axis machine that benefits from steam injection. Thus, merely changing the orientation of the tub is not considered to be patentably distinct. It would have been obvious at the time of the invention to modify Nakamura and orient the tub horizontally, as disclosed by Sulzmann, as it is a well-known drum configuration.

2. In regards to claims 17 and 28, Nakamura et al. discloses the steam generation unit as being located above the tub and between the tub and the casing. He does not disclose it below the tub between the tub and the casing. Rearrangement of parts was held to have been obvious. *In re Japikse* 86 USPQ 70 (CCPA 1955). It would have been obvious at the time of the invention to modify Nakamura et al. and alter the location of the steam generator to fit different design parameters.

3. In regards to claims 22, Nakamura does not disclose inclined walls. Changes in shape or form have been held to be obvious. *In re Dailey* 149 USPQ 47, 50 (CCPA 1966). A change in the shape of the walls is considered to be a change in shape that does not render the applicant's invention patentably distinct over the prior art. As stated previously, Nakamura's generator reads on the broadest reasonable interpretation of the applicant's claims. Merely changing the shape does not alter the function, as a steam storing space is present in either conformation.

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4. In regards to claim 40 and 41, Nakamura does not disclose the steam tube extending between a water receiving space and a steam storage space. As stated previously, if steam is to travel through tube 8, then the tube must be fixed to the container at a location in correspondence with the steam storing part. Examiner does not find the location of such a device to be a patentably distinct feature, as they both provide a means to deliver produced steam to the machine. Furthermore, rearrangement of parts was held to have been obvious. *In re Japikse* 86 USPQ 70 (CCPA 1955).

5. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. in view of Sulzmann and further in view of the admitted state of the art (ASA). Nakamura et al. does not disclose a detergent box or a pipe associated with a detergent box. Applicant has disclosed that detergent boxes are well known in the prior art for supplying detergent to a tub (Specification lines 5-10). Furthermore, duplication of parts was held to have been obvious. *St. Regis Paper Co. v. Beemis Co. Inc.* 193 USPQ 8, 11 (1977); *In re Harza* 124 USPQ 378 (CCPA 1960). Including another pipe from the inlet valve to a detergent box is nothing more than duplication of tube 16. It would have been obvious at the time of the invention, to modify the machine disclosed by Nakamura et al. in view of Sulzmann, as stated above, and further include a detergent box with a unique water supply tube as taught by the ASA, in order to allow the proper amount of wash fluid to enter the tub while still having the benefits of steam cleaning.

6. Claim 4, 25 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. in view Sulzmann and further in view of Chang. Nakamura et al. does

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disclose the steam tube being located in the upper end of the tub for delivering steam but does not disclose a gasket for preventing leakage of water between the tub and the casing. Chang discloses a gasket 35 for preventing leakage from tub 5. Furthermore, gaskets are notoriously well known in the art, and simply including them for their conventional use cannot be considered novel. It would have been obvious at the time of the invention to modify Nakamura et al. in view of Sulzmann, as stated above, and further include a gasket as taught by Chang for preventing leakage. It would also be obvious for the steam supply to penetrate this gasket in some regard, otherwise the steam generator would not be able to perform its intended function of delivering steam to the tub, a function disclosed by Nakamura et al.

7. Claims 8-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. in view of Sulzmann in view of Sloan et al. and further in view of Wang. Nakamura et al. does not disclose a submerged heating element. Sloan et al. discloses a steam generator with an electric heating element 14 disposed in such a fashion that even at a minimum water level, proper heating takes place. Heating coils are notoriously well known in the art. Wang also discloses a steam generator with a slightly different arrangement, in which heating coil 14 is at the bottom of the boiler 11, but not below a conductive material like Sloan et al. It would have been obvious at the time of the invention, to modify Nakamura et al. in view of Sulzmann, as stated above, and arrange an electric heating coil at the bottom of the boiler, as taught by Sloan et al. and Wang, in order to allow water to boil even at its minimum level.

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8. Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. in view Sulzmann in further view of Pick. Nakamura et al. does not disclose the inlet valve being controlled by solenoids. Solenoid valves are notoriously well known in the art and their use cannot be considered novel. Pick discloses an inlet valve of a washing machine that is operated by solenoids. It would have been obvious at the time of the invention to modify Nakamura et al. in view of Sulzmann, as stated above, and provide a solenoid inlet valve, as taught by Pick, so that the valve can be controlled electrically.

9. Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. in view Sulzmann in further view of Aksenov et al. Nakamura et al. does not disclose a temperature sensor in the boiler. Aksenov et al. disclose an electrically heated steam generator with control 40 and temperature sensor 41. Furthermore, temperature control is notoriously common in the art. It would have been obvious at the time of the invention to modify Nakamura et al. in view of Sulzmann, as stated above, and include a temperature sensor with associated control elements as taught by Aksenov et al., in order to control the temperature of the temperature inside the boiler.

10. Claim 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. in view Sulzmann in further view of Tsutsumi. Nakamura et al. does not disclose a blower or fan in the outlet tube. The applicant does not clearly show how a blower would be included in said apparatus. However, the use of a blower or fan is notoriously well known in the art for the purpose of driving steam out of the generator. Tsutsumi discloses such a fan 12 for driving steam out of a steam generator. It would have been

obvious, at the time of the invention to modify Nakamura et al. in view of Sulzmann, as stated above, and include a blower near the outlet of the generator, as taught by Tsutsumi, in order to force steam out of the generator.

11. Claims 13-15, 36-37 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. in view of Sulzmann in further view of Glucksman. Nakamura does not disclose a wash-water flow-restraining unit mounted in the container. Various known methods for restraining, or controlling fluid flow, are known in the art from simple float valves to elaborate processes involving detection and control schemes. Any of these would read on "flow restraining unit". Glucksman discloses a water control means involving partitions in figure 3. Chamber 30 extends down to just above the bottom of tray 42, like partition 1 of the claimed invention. Outside of chamber 30 exists another wall surrounding the walls of 30, so as to divide the chamber into different water holding areas, each of uniform level. Finally, a passage exists below the wall of chamber 30 for allowing water to flow from one compartment to the other. This is equivalent to a "through-hole". It would have been obvious at the time of the invention to modify Nakamura et al. in view of Sulzmann, as stated above, and include partitions, as taught by Glucksman, in order to maintain proper water level in the apparatus.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Heckert whose telephone number is (571) 272-2702. The examiner can normally be reached on Mon. to Friday, 8:00 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMH



MICHAEL BARR
SUPERVISORY PATENT EXAMINER